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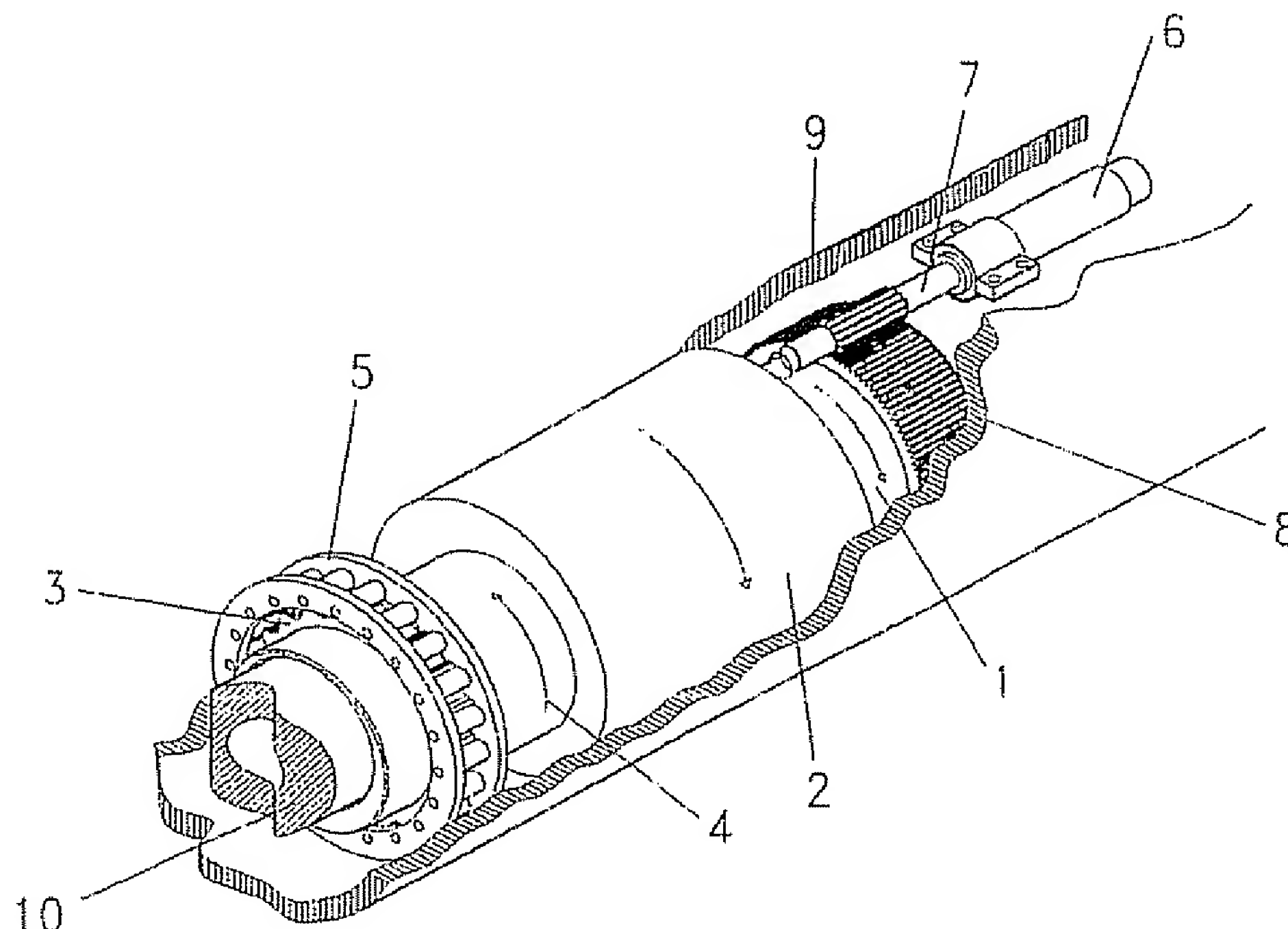
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[Continued on next page]

(54) Title: ROTARY VECTOR GEAR FOR USE IN ROTARY STEERABLE TOOLS



(57) Abstract: A rotary vector gear for controlling longitudinal axis offset about a central longitudinal axis is disclosed. The device uses single rotary motion through a rotary vector gear to produce hypotrochoidic offset similar to a flower petal and is capable of ready return to zero offset. The device may be used in downhole rotary steerable oil and gas drilling tools and in computer controlled milling machines for providing controlled offset.

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